

**Planning, Environmental and Engineering Services Department**

**Water**

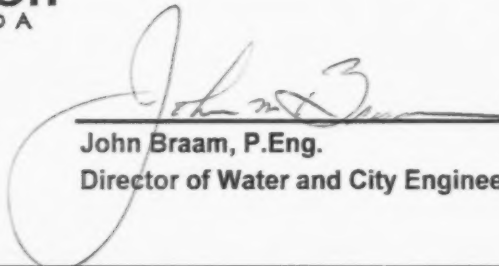
**2012 Operating and Capital Budgets**

**and**

**Nine Year Capital Plan**



**DRAFT**

  
\_\_\_\_\_  
John Braam, P.Eng.  
Director of Water and City Engineer

## Table of Contents

### Water Budget Highlights

Recommendations .....	1
Executive Summary .....	2
Your Water Dollar .....	21
2012 Budget Highlights .....	22

### Operating Budget

2012 Operating Program Budget Summary .....	23
2012 Object of Expenditure and Source of Revenue Summary .....	24
Overview of Program Changes - Revenue .....	25
Overview of Program Changes - Expenditures .....	26
Four Year Operating Forecast .....	27
Performance Measures and Staffing 2006-2016 .....	29

### Capital Budget

Capital Program .....	30
Capital Expenditure Summary by Classification .....	32
Capital Source of Financing Summary .....	33
Capital Expenditure Detail .....	34

### Reserve Funds and Reserves

Simplified Water Funding Overview .....	51
Reserve Funds and Reserves .....	52

### Debt Summary .....

	55
--	----

### 2012 Schedule of Rates and Charges .....

	57
--	----

**Planning, Environmental and Engineering Services Department  
Water  
2012 Budget**

<b>RECOMMENDATIONS</b>
------------------------

That, on the recommendation of the Director of Water and City Engineer, the following actions be taken with respect to the 2012 Operating Budget, Capital Budget and 2013 - 2021 Capital Forecast for Water Services:

- (a) the 2012 Operating Budget for Water Services **BE APPROVED** as submitted;
- (b) the 2012 Capital Budget for Water Services **BE APPROVED** as submitted;
- (c) the 2013 - 2021 Capital Forecast for Water Services **BE RECEIVED** for information;
- (d) all rates and charges related to the provision of Water Services **BE INCREASED** by 8%, effective January 1, 2012;
- (e) the proposed by-law to amend the Water Rates and Charges By-law **BE INTRODUCED** at the Municipal Council meeting on November 21, 2011 to effect the rates and charges noted in (d), above; and
- (f) the Civic Administration **BE AUTHORIZED** to create a reserve relating to non-tangible capital assets in order to comply with accounting legislation under PSAB 3150.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

<b>EXECUTIVE SUMMARY</b>
--------------------------

The proposed 2012 Water operating and capital budgets will continue to maintain *London's Advantage* of a safe and reliable water supply for this and future generations of Londoners. Administration has prepared the 2012 operating and capital budget based on the financial sustainability rate plan endorsed by Council during the development of the 2011 budget. This will result in an 8% rate increase in 2012.

The average cost to the homeowner for 2012 will increase by \$24 per year (based on consumption of 192.6 m<sup>3</sup>). At the proposed rates in 2012 the homeowner's cost for the year will be \$319 or 87 cents per day. It should be noted that average costs may be reduced reflecting the recent trend in declining consumption, as customers reduce their water use.

The operating and capital work plans represent a balanced approach to the installation of new infrastructure in conjunction with the Growth Management Implementation Strategy and the investment and renewal required to sustain existing infrastructure. Reliable infrastructure and performance of the water system are key elements to economic development as well as quality-of-life and safety (fire protection and sanitation) in the community. In 2012, efforts will continue to protect water quality and reliability and to expedite water meter replacements to provide consistently accurate meter readings, and reduce lost revenue.

Increasingly stringent standards, regulations and legislative obligations continue to require major investments in terms of staff time and financial resources. Staying abreast of regulatory developments and providing early commentary and views, although not always successful, remains a key tactic in helping to shape the broader direction and control long term costs. (Examples: Source Water Protection, corrosion control plans, intra-basin water transfers and water conservation). Utilities are continually faced with the renewal needs of an aging infrastructure and high rates of inflation, particularly for construction. Re-thinking past practices and investing in new approaches, while ensuring the reliability of the service, have become fundamental to the daily delivery of clean water.



**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

**Financial Overview**

The proposed 2012 Water operating budget presents a balanced cost/revenue plan in the amount of \$59.7 million. This represents an increase of 5.2%.

The proposed operations budget of \$39.3 million represents a 2.6% increase over 2011. However, a 0% operating budget has been achieved after adjustments are made for the following uncontrollable costs:

- ✓ The outside cost of purchasing water from the Elgin Area and Lake Huron Primary Water Supply Systems which are anticipated to increase by 7% and 5% respectively;
- ✓ Unsettled labour agreements (ie. non-union) and the second year of the OMERS rate increase (consistent with the General Property Tax Supported Budget);
- ✓ Cost increases associated with the new Southeast Reservoir and Pumping Station; and
- ✓ Contracted services provided by London Hydro.

In addition, the Water Service Area continues to utilize a number of initiatives including increased use of new technologies to minimize operating and capital costs.

Debt servicing costs are projected to increase from \$21 thousand to \$259 thousand and capital funding has been increased by \$1.7 million to \$20 million. The Water Service Area continues to utilize and build its reserves in accordance with the 20 Year Water System Plan. Refer to pages 52-54 for the reserve funds used by the Water Service Area.

Since 2010, the operating budget has been either at or close to a 0% increase (consistent with the departmental target in the general tax supported budget). Administration continues to strive to eliminate waste, improve efficiencies, and utilize new technology in an effort to minimize operational costs. Administration believes that the operating budget has now been reduced to a point where further operating targets of 0% will begin to impact service levels.

**Planning, Environmental and Engineering Services Department  
Water  
2012 Budget**

*Exhibit 1*

<b>Explanation of Changes in Expenditures</b>	<b>Change (000's)</b>
The outside cost of purchasing water from the Elgin Area and Lake Huron Primary Water Supply Systems which are anticipated to increase by 7% and 5% respectively (subject to Joint Board of Management approval).	851
Wage, salary, and benefit adjustments taking into account employment agreements have led to a small increase compared to 2011 (the OMERS increase is also accommodated in this budget category).	140
Cost increases associated with the new Southeast Reservoir and Pumping Station	153
Contracted services provided by London Hydro	131
General Administration and Financial Expenses (offset by a partial transfer of billing and administration costs to Wastewater and Treatment to continue to move gradually to full sharing of these costs).	(279)
<b>Operating Related</b>	<b>996</b>
Increased contributions to reserve funds to reflect changes to the 20 Year Water System Plan.	521
Increased capital levy to continue the practice of pay-as-you-go financing for life cycle renewal projects.	1,175
Increased debt servicing costs resulting from debt issued in 2011 for prior years approved capital projects.	238
<b>Capital Related</b>	<b>1,934</b>
<b>Total Expenditures Increase of 5.2% - Rate Increase of 8%</b>	<b>2,930</b>

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

**Economic Conditions and Future Uncertainty**

This budget proposes reconfiguring the allocation of capital works associated with the long term infrastructure renewal and replacement plans to achieve sustainability by 2018. Watermains and other water assets continue to age and degrade, irrespective of the amount of water used and other external factors. Although some economic stability has been achieved and certain markets are improving, uncertainty remains and regional employment is below desirable levels. Reduced capital spending in this climate puts more people out of work.

Senior Government stimulus funding was committed in 2010, with no significant allocation to the Water Service Area. Two projects (EW3544 Dundas Street Watermain Replacement and EW3545 Watermain Replacements) were brought forward into 2010 in order to align with Transportation and Sewer works which were accelerated by the allocation of stimulus funding. These projects were not contemplated within the 20 year time frame of the Water Financial Plan. This acceleration without the benefit of senior government funding has put additional pressure on the Water Reserve Fund. The impact of these two projects advanced the need for approximately \$2.5 million in borrowing. Advancing these projects was of significant benefit in leveraging rate supported funds for General Tax and Wastewater and Treatment. Future borrowing for capital works may be required in the future to stabilize the Water Reserve Funds.

There is no current federal/provincial infrastructure funding program that the Water Service Area can access with the exception of Gas Tax allocation that was previously designated at \$419,000 per year. While staff will continue to investigate possible funding programs, it is unlikely with the current senior government deficit positions that significant new and sustainable programs will emerge.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

The financial model and 20 Year Water System Plan is premised on specific assumptions. If these assumptions change, then the sustainability of the water supply system could be affected positively or negatively. Factors in the model which could impact revenues or expenditures are identified below:

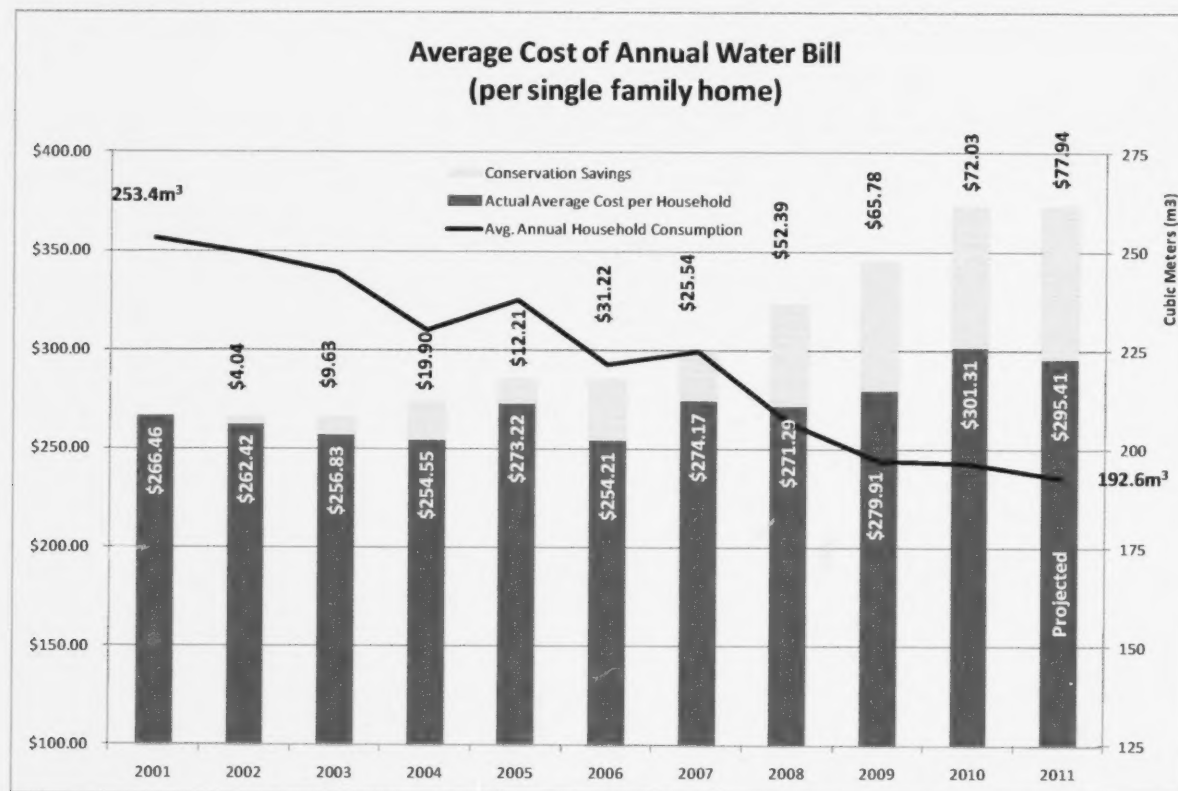
- a. Water consumption – revenues are directly tied to the amount of water the City sells to its customers – declining consumption is forecasted in the model even though the number of customers and businesses are forecasted to increase because of conservation or reduced industrial production – consumption was decreased for the 2012 budget based on recent trends, best practices and anticipated reductions resulting from more efficient fixtures;
- b. Increases in the wholesale water purchased from the Joint Boards have been based on the previous Regional Water System financial plan – this financial plan is being updated to address higher capital costs associated with the Residue Management Facilities, electrical costs and potential increases in contract operations, as the contract is being re-tendered in late 2011 – the current model reflects a longer duration for the Regional Water Systems to reach sustainability than the City;
- c. Consumer price index and construction cost index – construction costs and administration operation costs are assumed to escalate at a blended rate of 3% in the model – higher construction cost escalation might require that annual rate increases need to be higher than 3% to achieve sustainability – since the buying power of the dollar is reduced;
- d. Non-revenue water (NRW) – in the middle of the last decade NRW was at 7.5 to 8%, whereas now we are experiencing around 10% – the model assumes a reduction in NRW to 9% based on enhanced leak reduction efforts and meter replacement strategy - not achieving this reduction will delay sustainability or require greater rate increases; and
- e. New revenue sources – the addition of new revenue sources such as a fire protection charge, charges for various services provided to the private sector (e.g. hydrant flow testing or private hydrant maintenance) would be beneficial.

# Planning, Environmental and Engineering Services Department **Water** **2012 Budget**

## **Water Consumption and Conservation**

Average household water usage in London has declined 22% from 2001 to 2010 and is projected to reach 24% in 2011 (Exhibit 2).

*Exhibit 2*





**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

There are a number of influencing factors responsible for this conservation trend and although the impact to utility revenues is negative the overall impacts of water consumption decreases should be seen as a very positive trend toward *Conserving the Future*, and should be encouraged.

It is anticipated that the final billed volume for 2011 will fall short of budget once again due to the continued reduction in consumption by industrial, commercial and institutional customers impacted by the soft economic recovery. The 2011 budget was based on volume of 45.5 million cubic metres (Mm<sup>3</sup>) which is being further reduced to 44.5 Mm<sup>3</sup> for the proposed 2012 budget. This represents a consumption and conservation reduction of 2.2% which has been absorbed into the revenue projections for 2012.

**Rate Increases Needed to Sustain the Water Utility**

During the approval of the 2011 budget, Council endorsed a rate plan that targeted financial sustainability by 2017. While the declining water consumption trend helps to postpone future works, it is placing significant pressure on the City's capacity to raise adequate funds to operate, maintain and improve the existing system. Since water consumption has been declining at a more rapid pace than originally forecasted, Administration has re-forecasted its long-term water consumption estimates. This has resulted in a significant impact to the capital plan based on the current long-term rate forecast. In an effort to mitigate the revenue impacts resulting from water consumption, Administration is recommending deferring financial sustainability to 2018 (the long-term rate forecast is detailed in Exhibit 3).

Administration is recommending 8% rate increases in 2012 through 2015, 7% in 2016, 6.75% in 2017, and a return to the rate of inflation thereafter. This would enable the Water Service Area to reach financial sustainability by 2018 which is consistent with the principles of the 20 Year Water System Plan. The projected rate increases are offset by an anticipated net consumption reduction of 0.75% (assuming a 1% growth factor and an average consumption reduction of 1.75%) for the first ten year period and an anticipated net consumption reduction of 0% (assuming a 1% growth factor and an average consumption reduction of 1%) for the second ten year period. The future projected rate increases will be used to address the infrastructure deficit.



**Planning, Environmental and Engineering Services Department  
Water  
2012 Budget**

It should be noted that projections are based on best available information at this time. Changes in the economic climate, legislative requirements, or water consumption trends may result in modifications to the 20 Year Water System Plan to ensure sustainability is achieved.

*Exhibit 3*

Long-Term Rate Forecast from 20 Year Water System Plan			
Year	Rate Increase Required	Net Consumption/Growth Demand	Program Requirements
2013 – 2015	8.00%	-0.75%	7.25%
2016	7.00%	-0.75%	6.25%
2017	6.75%	-0.75%	6.00%
2018	3.00%	-0.75%	2.25%

**Core Service Delivery – Infrastructure Renewal, Economic Development and Growth, and Resource Protection**

The Water Service Area remains proactive in initiatives to ensure that this service continues to meet all of the demands and expectations of customers. Current infrastructure requires significant renewal (replacement and rehabilitation) work to close the infrastructure gap ensuring that future generations and businesses are not faced with a water system that is failing, unreliable and expensive to maintain. There is also an environmental duty, and soon there will be a regulatory requirement, to ensure that water consumption is not wasteful. Further initiatives related to water awareness and the efficient use of water have been budgeted and programs are currently being designed. The water utility has maintained a relatively good financial picture and continues to place London in the position of *Setting the Standard* for a utility which has an adequate and secure supply of high quality water. In the next few years, the water reserve funds are projected to be drawn down to a lower than normally acceptable level, even as renewal needs are deferred, because of a desire to freeze water rates in 2011.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

*Exhibit 4*

<b>2012 Water Capital Plan Summary</b>		
<b>Category of Project</b>	<b>Total (\$000's)</b>	<b>Percentage</b>
Life Cycle Renewal	15,938	74%
Growth	1,436	7%
Service Improvement	3,335	15%
Non-Tangible Capital Asset	797	4%
<b>Total</b>	<b>21,506</b>	<b>100%</b>

Water Distribution System Renewal

Two capital programs are at the centre of renewal and focus to manage the infrastructure gap to a sustainable level.

1. The Main Cleaning & Relining Program targets areas of the City where water quality (taste, colour, chlorine residual) has deteriorated due to prolonged water detention time and internal corrosion of the watermain (identification is driven in part, by water quality complaints). Cleaning and relining restores water quality and improves fire flow, while extending the life of a watermain that would otherwise have to be replaced at a much higher cost and also reduces social impacts and disruption by utilizing trenchless technologies. In recent years, this program has focused more on structural relining versus cement mortar relining.
2. The Watermain Replacement Program ensures that the distribution system remains reliable and cost effective. This program is coordinated with sewers and roads and has been re-aligned to meet Council's direction on sustainability, by shifting some funds to structural relining.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

Some anticipated benefits of continuing these capital programs are a reduction in water quality complaints, extended service life of watermain (before replacement is required), reduction in the number of watermain breaks, reduction in water losses and reduction in water used for flushing, reduction in average age of system and a reduction of risk to private property damage and disruptions to the travelling public.

**Meter Replacement Strategy**

Water Operations continues with its water meter replacement program and meter reading strategy, concurrently with London Hydro's compliance with government legislation requiring implementation of "Smart Metering" for electric customers. The smart metering initiative at London Hydro has been complemented with a new customer service software system (SAP) to manage the new meter read data. The new system has meter management capabilities and will be interlinked with meter replacement and the City's meter work order system. The Water Meter Shop will utilize the new software to improve water meter change-out scheduling and customer interactions supporting the interactive telephone voice recording system and web-based appointment scheduling system.

The existing meters are beyond their optimum replacement age and are in a deteriorating condition, thereby being a source of unaccounted water and revenue loss for both Water and Sewer revenue streams. The replacement meters incorporate state-of-the-art technology, fully compatible with the automated meter reading system. Reducing the backlog of old meters scheduled for replacement continues through a long-term meter change-out program over a 10 year period. This approach will minimize spikes in the future replacement program as compared to a 1 or 2 year change-out period, ensuring sustainability of this key meter asset. By use of both temporary and full-time staff, this cost-efficient program is effectively capturing previously lost revenue associated with under-reading water meters.

**Planning, Environmental and Engineering Services Department  
Water  
2012 Budget**

Residential and Industrial Growth Projects

There is only one major growth related project budgeted for in 2012. With the start-up of the Southeast Reservoir and Pumping Station (SERPS) in the fall of 2011, modifications are required to the pressure zone in Southeast London. Piping modifications and new pressure regulating valves will be installed in 2011 and 2012 to expand the zone to make best available use of the 22.7 million litres per day that we are contracted to purchase from the Elgin Area Water Supply System. Introduction of the new pressure zone and SERPS, not only enhances economic development opportunities in Southeast London and improves service to existing customers, but also provides a more secure water supply system for the City of London and upstream communities in the Elgin Area Water Supply System. Under emergency scenarios, these new improvements will allow supply to continue to the City and Elgin communities, even if there is an interruption of supply from the Elgin Area Water Treatment Plant. With the addition of significant storage at SERPS, further opportunities for energy savings are noted below.

**Risk Reduction Initiatives related to Health and Safety, Financial, Security of Supply, Environmental and Private Property**

Municipal Councillors and officials have oversight responsibilities under Section 19 of the Safe Drinking Water Act, which becomes a statutory requirement on January 1, 2013. Severe penalties are possible for municipal officials who fail to act in good faith and do not exercise honesty, competence and integrity to ensure the protection and safety of the users of municipal drinking water systems. A statutory standard of care is required on the part of our elected officials to prevent waterborne disease outbreaks.

Considerable effort has been undertaken in the Water Service Area to assess risk and put in place management strategies to reduce risk and minimize the impact on our customers. Several initiatives are identified for 2012, while others are a continuation and/or expansion of work already underway. Some of the initiatives undertaken by the City reduce risk in multiple areas (e.g. structural lining of cast iron watermains improves water quality, enhances security of supply, reduces lost water or flushed water and avoids damage to private property).

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

Drinking Water Quality Management System (DWQMS)

The Drinking Water Quality Management System (DWQMS) mandated by the province will assist the utility in ensuring a consistent delivery of high quality drinking water by all staff. Documentation of the numerous practices in water supply operations and maintenance and adherence to them will minimize the health risk to all our customers.

Lead Mitigation Strategy

The water in London's Distribution System has very low or undetectable levels of lead, but many homes built before 1953 are connected to the distribution system by lead service pipes. In the summer of 2006, the City of London began offering free water testing for lead, and noted elevated lead levels in samples taken from the taps of customers connected to the water distribution system by lead service pipes. Shortly thereafter, a three pronged approach to minimize lead uptake at consumers' taps was developed, consisting of education and awareness, water chemistry changes and lead service replacements. The education and awareness component of our strategy is accomplished through our free testing program and through information provided on our website, pamphlets included with the water bills and brochures delivered to older homes. With respect to water chemistry changes, the City has submitted a Corrosion Control Plan to the MOE which included pH adjustment of the water entering the City of London from the Lake Huron supply. Significant reductions in lead levels have been observed since pH elevation began in January 2008. The Elgin Area Water Treatment Plant installed corrosion control equipment in 2011, which should be fully functional in 2012. Although the City has had a lead replacement program since the early 1980's, additional resources were approved by Council in 2008 to accelerate the replacement of lead services either through customer or City initiated replacements. Lead service replacements have increased from approximated 250 per year prior to 2007 to over 600 per year, with a targeted average of 500 per year for the 18 year program. In addition, a significant amount of practical research is being conducted in partnership with the University of Western of Ontario and Ecole Polytechnique in Montreal to further reduce lead contribution from lead services.



**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

Occupational Health and Safety Plans

Considerable effort has been undertaken to protect city workers as they undertake day-to-day maintenance and operational duties. Recent amendments to the Act have resulted in changes to City policy and procedures in relation to violence in the workplace or domestic violence outside of the workplace. Water Operations mobile workforce has a greater exposure to customers in their homes than most City workers. Measures continue in 2012 to limit liability concerns.

Condition Assessment and Long Term Monitoring of Large Diameter Watermains

Due diligence requires that the Water Service Area use best practices to determine the condition of the City's largest watermains using non-destructive testing technology including acoustic fibre optic cables mounted inside the pipes, electromagnetic inspections using robotic sensors and leakage surveys using "smart ball" listening technology. Rigorous assessment of these mains will allow timely remediation of the main, extend their life and avoid catastrophic failure.

Average cost of the failure of large diameter mains as reported by the Water Research Foundation is identified to cost the community in excess of \$1.5 M per break. Phase 3 of the fibre optic installation will be undertaken in 2012, which will monitor the main supply line into the City from Arva to Springbank Reservoir.

Leak Detection within the Distribution System Utilizing Acoustic Listening Devices

A pilot project has been initiated as part of the Water Efficiency Program to identify currently undetected water leakage in the distribution system by reviewing flow data in specific areas of the City. If successful, additional District Metering Areas will be established as part of the on-going program. The technology available with new water meters provides the capability to record and gather consumption data, time-of-use, etc. by remote means (walk-by and/or drive-by).



**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

Leak Detection within the Distribution System Utilizing Analysis of Real Time Water Consumption

Another pilot project has been initiated as part of the Water Efficiency Program to identify currently undetected water leakage in the distribution system by reviewing flow data in specific areas of the City. If successful, additional District Metering Areas will be established as part of the on-going program.

Reduction of Non-Revenue Water

A significant aspect of managing our financial risk is to reduce the amount of water which is delivered to the City, but not charged for. This is termed "non-revenue" water. While London has an enviable ratio of billed water to purchased water (90%), there are several opportunities to improve the efficiency of the system in terms of leak reduction, billing meter accuracy, reducing breaks and early response to breaks, improved water quality to minimize flushing requirements and bulk water sale stations.

Hydraulic and Water Quality Modelling

Undertake ongoing efforts to assess the impact of operational changes on water quality and water pressure in the distribution system for safety of supply, fire protection and impacts on customers. Also undertake energy efficiency modeling to reduce operational costs. Transient pressure modeling will extend the service life of pipes in the distribution system and reduce breaks

**Operational Efficiency Initiatives**

The Water Service Area continues to seek out and implement new technologies bringing innovative approaches to infrastructure renewal. Below are some of the new and continuing initiatives that have been included within the proposed budget.

Improving Electrical Efficiency at the City's Pumping Stations

Funding programs announced by the Ontario Power Authority in 2011 will assist the City in undertaking studies, which should lead to more energy efficient pumping systems at the City's pumping stations. The improvements are also expected to improve customer service and reliability of the water supply.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

Computer Maintenance Management System (CMMS)

Water Operations is working towards electronic maintenance management, in conjunction with the Asset Management Division. The computerized work order system will better schedule the work of Operations staff to achieve greater efficiencies, track expenditures against assets and develop readily retrievable electronic records for each water asset. Planning began in 2011 and it is expected that implementation will begin in 2012.

Trenchless Technologies - Reducing Trenching and Restoration

Trenchless technologies have been used by the Water Department since the mid 1990's, all the while reviewing, assessing, and implementing emerging innovative technologies and materials. Compared to open cut and surface restoration construction, trenchless methods minimize the amount of excavation required to install watermain, minimize damage to surface structures, cause less disruption of traffic and reduce noise and dust for homeowners. This technology also allows installations to be made in areas where open excavation is impractical, impossible, extremely difficult, or costly. Trenchless procedures are also more environmentally friendly because they produce less construction emissions.

Success in trenchless watermain rehabilitation projects warrants increased use of this technology. Water Operations has completed many watermain replacement projects and lead service replacements in 2011 using its directional drill equipment. Successes have been realized by continued use of its hydro-excavation equipment, which significantly decreases the amount of excavation and restoration required to undertake maintenance and repairs to watermains and water services, while safely working around hazardous utilities (hydro and gas). Additionally, reduced impact to the travelling public and cost-saving are predicted to continue in 2012 once full implementation of recently purchased hot-mix asphalt recycling equipment is realized, providing immediate surface repairs of watermain breaks in cold weather conditions, when conventional hot-mix asphalt plants are closed for the winter.

Practical research is underway to assess innovative technologies in the area of structural lining of cast iron watermains. With increasing contractor competition in this area, the cost to rehabilitate watermains is expected to decrease somewhat allowing more watermains to be renewed, further narrowing the infrastructure gap.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

Showcasing Water Innovation

The Ministry of the Environment has established a new fund that focuses on partnership between municipalities and Ontario businesses. The City has signed on as a partner on multiple projects including one focused on advanced GIS mapping and another that uses advanced research to understand and mitigate lead in drinking water.

Elgin Middlesex Pumping Station and the Southeast Reservoir and Pumping Station (SERPS) Operations

The 2010 budget had approved the hiring of a new operator. The hiring was deferred until late 2011 commensurate with the commissioning of the Southeast Reservoir and Pumping Station facility, as well as to be familiar with ongoing operation of London's portion of the Elgin-Middlesex Pumping Station. As part of the proposal call by the Joint Board of Management for contracted operation of the Elgin Area Primary Water Supply System, a cost will be requested for the Elgin-Middlesex Pumping Station. Subject to the quoted cost, Water Operations will be prepared to take over the contracted operation of London's pumps and equipment. Also, the previously approved Water Capital budget had included a project for replacement of London's pumps and ancillary equipment in the Elgin-Middlesex Pumping Station, again its timing dependent upon SERPS coming on-line. Significant cost savings are expected through energy efficiency gains by the pump replacement initiative coupled with Southeast Pumping Station becoming operational, and further enhanced by more equitable operating contract terms or alternatively, the taking over of London's interests at the Elgin-Middlesex Pumping Station by City staff.

**Legislation which Is or May Impact Future Cost of Operations**

The "Licensing of Municipal Drinking Water Systems" (O. Reg. 188/07) under the *Safe Drinking Water Act, 2002* consists of 5 elements:

1. A Drinking Water Works Permit (DWWP)
2. An Accepted Operational Plan
3. Accreditation of the Operating Authority
4. A Financial Plan
5. A Permit to Take Water (PTTW)

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

Implementation of a Drinking Water Quality Management System (DWQMS) continues. The City of London's Operational Plan was submitted and approved. The City of London's Drinking Water Works Permit and Municipal Drinking Water Licence were issued by the MOE in December 2010. An internal audit has been completed and the external audit will be completed in 2011, at which time the water utility will become a fully accredited Operating Authority. A revised Financial Plan was approved May 2011 by Council and submitted to the Ministry of Municipal Affairs and Housing.

The Ontario government passed the Clean Water Act in October 2006 to protect the province's source waters which are used for municipal drinking water. In support of measures required by the legislation, the Ministry of the Environment established a grant program to fund work leading towards the development of Source Protection Plans by October 2012. While the City has benefited from the grant program, (report to ETC September 8, 2008), it is unclear at this time what the cost implications will be to Water and Wastewater Utilities when the plans are implemented. City staff have ongoing involvement in the development of the plans.

The City of London has responded to the Environmental Bill of Rights Registry posting dealing with the proposal paper on Stewardship, Leadership, Accountability – Safeguarding and Sustaining Ontario's Water Resources for Future Generations. The main concern for London revolves around the point of whether London is undertaking a transfer of water across a Great Lake basin boundary. Staff at the City of London and Regional Water Supply Systems are fully engaged with the appropriate Ministries to ensure the best interests of the City of London and other regionally supported municipalities are considered. New regulations are anticipated in 2011, which may have long term cost impacts on the future growth of the water supply within the City of London.

## **Planning, Environmental and Engineering Services Department**

### **Water**

### **2012 Budget**

The Water Opportunities Act introduces mandatory legislation anticipated in the development of our Water Efficiency Program and Municipal Drinking Water Awareness Plan. Other key elements of the Act, incorporated within a "municipal water sustainability plan" such as an asset management plan including a maintenance management system, a financial plan and a risk assessment are either complete or well underway, thereby putting the City in a good position to meet the requirements of the legislation and the subsequent enabling regulations. Any further impacts on staff resources and financial commitments will not be clear until the regulations of The Water Opportunities Act are put forward, but it is clear that more effort will be required than was previously budgeted. For the 2011 Budget, a new staff technologist position was included to support delivery of the Water Efficiency Program which has been phased in over the last 2 years. This position has been held in abeyance awaiting the regulation, but we anticipate that it will need to be filled by 2012.

#### **Conclusion**

The proposed 2012 Water Service Area operating budget presents a balanced investment/revenue plan in the amount of \$59.7 million. Operating expenditures continue to be minimized in an effort to maximize capital funding so that the infrastructure gap is managed to a sustainable level.

Water consumption has been declining at a more rapid pace than originally forecasted. As a result, Administration has re-forecasted water consumption estimates and amended the 20 Year Water System Plan to ensure financial sustainability is achieved while ensuring the infrastructure gap is narrowed. Based on the revised 20 Year Water System Plan financial sustainability is now projected to occur in 2018.

At a daily cost of 87 cents, (based on  $192.6 \text{ m}^3$ ) a London household has access to a reliable, high quality abundance of water to satisfy all their water needs (drinking, food preparation, sanitation, showers, laundry, dishwashing, outdoor water use etc.). Public health, fire protection, economic development and convenience further enhance *London's Advantage* through the provision of this essential service.



**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Budget**

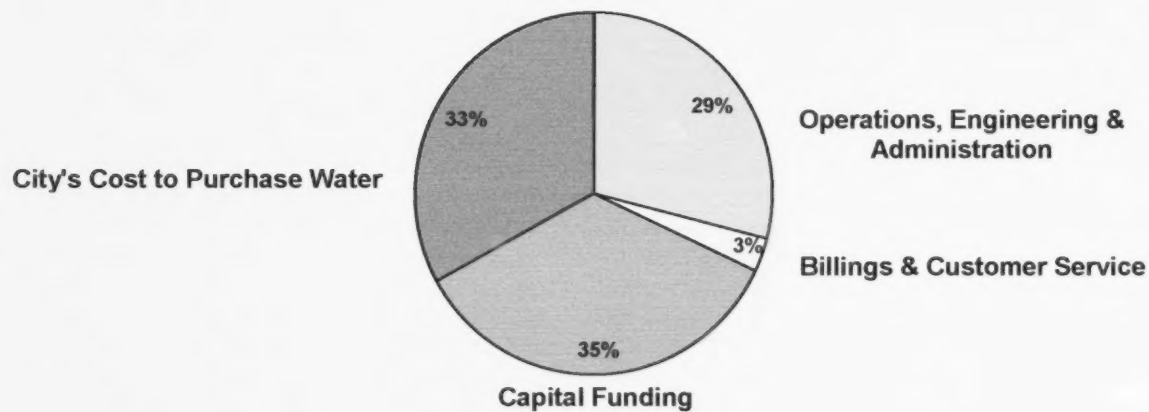
The legislated Water Service Area Financial Plan submitted to the Ministry of Municipal Affairs and Housing in June 2010, was revised, approved by Council May 9, 2011 and re-submitted to MMAH June 14, 2011. The financial plan for the City's water supply system confirms our commitment to full cost recovery, financial stability, closing the water infrastructure gap, while achieving sustainability of the system in the years to come. The financial plan identifies the funding requirements to ensure a safe and sufficient water supply, while meeting all regulatory compliance requirements. It is a commitment to continue renewing infrastructure as it approaches the end of its useful life, prior to failure, thereby minimizing maintenance and repair costs, social disruption and water loss and ensuring inter-generational equity.

A fully developed and implemented financial plan will maintain ***London's Advantage*** over other municipalities providing a high quality, abundant water supply at affordable rates and ***securing tomorrow***, allowing future generations to prosper as we have.



# Planning, Environmental and Engineering Services Department Your Water Dollar

## Where Your Water Dollar Goes



Budgeted Residential Cost at 2011 Rates (1)	\$317
Revised Residential Cost at 2011 Rates (1)	\$295
Proposed 8% Rate Increase	\$24
Residential Cost at 2012 Rates (2)	\$319

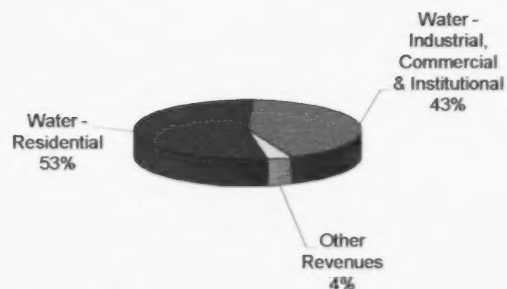
(1) The budgeted residential cost in 2011 (\$317) was based on an average residential consumption of 207 m<sup>3</sup>. The 2011 residential cost has been restated based on a revised consumption estimate of 192.6 m<sup>3</sup>.

(2) Based on an average residential consumption of 192.6 m<sup>3</sup>.

**Planning, Environmental and Engineering Services Department  
Water  
2012 Budget Highlights  
(\$000's)**

	(\$000's)	%
2012 Proposed Budget	\$59,677	
2011 Approved Budget	\$56,747	
<b>Increase Over 2011 Budget</b>	<b>\$2,930</b>	<b>5.2%</b>
Revenue Adjustments Including Consumption Reduction Estimate		2.8%
<b>Total Rate Increase</b>		<b>8.0%</b>

**Revenue Budget  
\$59,677**



**Expenditure Budget  
\$59,677**



**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Operating Program Budget Summary**  
**(\$000's)**

Program	2010 Actuals	2011 Approved Budget	2012 Proposed Budget	Change from 2011	Prior Year Change
<b>Revenue</b>					
Residential	29,484	30,115	31,803	1,688	5.6%
Commercial, Institutional, Industrial & Multi Family Residential	24,262	24,412	25,794	1,382	5.7%
Other Revenues	2,878	2,220	2,080	(140)	-6.3%
<b>Total Revenues</b>	<b>56,624</b>	<b>56,747</b>	<b>59,677</b>	<b>2,930</b>	<b>5.2 %</b>
<b>Engineering &amp; Operations</b>					
Engineering	1,263	1,346	1,363	17	1.3%
Purchase of Water	18,296	19,019	19,870	851	4.5%
Water Operations Administration	1,071	1,190	1,050	(140)	-11.8%
Water Meters	1,228	1,335	1,375	40	3.0%
Pumping & Storage	2,303	2,559	2,855	296	11.6%
Maintenance & Construction	6,797	7,521	7,526	5	0.1%
General Administration & Financial Expenses	3,576	3,560	3,356	(204)	-5.7%
Billings & Customer Service	1,745	1,770	1,901	131	7.4%
<b>Total Engineering &amp; Operations</b>	<b>36,279</b>	<b>38,300</b>	<b>39,296</b>	<b>996</b>	<b>2.6 %</b>
<b>Capital Contributions</b>					
<b>Capital Funding</b>					
Current Year Life Cycle Capital Funding	10,075	11,400	12,575	1,175	10.3%
Reserve Fund Contribution (1)	10,249	7,026	7,547	521	7.4%
Debt Servicing Costs	21	21	259	238	1133.3%
<b>Total Capital Contribution</b>	<b>20,345</b>	<b>18,447</b>	<b>20,381</b>	<b>1,934</b>	<b>10.5 %</b>
<b>Total Expenditures</b>	<b>56,624</b>	<b>56,747</b>	<b>59,677</b>	<b>2,930</b>	<b>5.2 %</b>

(1) Includes contributions to corporate reserves for Local Improvements and Self Insurance.

**Planning, Environmental and Engineering Services Department  
Water  
2012 Object of Expenditure and Source of Revenue Summary  
(\$000's)**

Object of Expenditure	2010 Actuals	2011 Approved Budget	2012 Proposed Budget	Change from 2011	Prior Year Change
<b>Revenues</b>					
Residential	29,484	30,115	31,803	1,688	5.6%
Commercial, Institutional, Industrial & Multi Family Residential	24,262	24,412	25,794	1,382	5.7%
Other Revenues	2,878	2,220	2,080	(140)	-6.3%
<b>Total Revenues</b>	<b>56,624</b>	<b>56,747</b>	<b>59,677</b>	<b>2,930</b>	<b>5.2%</b>
<b>Operating Related</b>					
Purchase of Water	18,296	19,019	19,870	851	4.5%
Personnel Costs	7,306	8,005	8,145	140	1.7%
Administrative, Other & Recovered Expenses	3,614	3,524	3,245	(279)	-7.9%
Billing & Customer Service	1,532	1,770	1,901	131	7.4%
Purchased Services	2,464	2,582	2,628	46	1.8%
Materials & Supplies	1,580	1,913	2,058	145	7.6%
Equipment & Rentals	1,487	1,487	1,449	(38)	-2.6%
<b>Total Operating Related</b>	<b>36,279</b>	<b>38,300</b>	<b>39,296</b>	<b>996</b>	<b>2.6%</b>
<b>Financial Expenses</b>					
Current Year Life Cycle Capital Funding	10,075	11,400	12,575	1,175	10.3%
Reserve Fund Contribution (1)	10,249	7,026	7,547	521	7.4%
Debt Servicing Costs	21	21	259	238	1133.3%
<b>Total Financial Expenses</b>	<b>20,345</b>	<b>18,447</b>	<b>20,381</b>	<b>1,934</b>	<b>10.5 %</b>
<b>Total Expenditures</b>	<b>56,624</b>	<b>56,747</b>	<b>59,677</b>	<b>2,930</b>	<b>5.2%</b>

(1) Includes contributions to corporate reserves for Local Improvements and Self Insurance.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Overview of Program Changes - Revenue**  
**(\$000's)**

Explanation of Changes in Revenue	Change (000's)
Although 2012 rates are proposed to increase by 8%, revenues from residential, commercial, institutional, industrial and multi-family residential water users are projected to increase by 5.6% over the 2011 budget due to the continued trend of water conservation and an increase to non-revenue water.	3,070
A loss of Late Payment Charge revenue previously included in the service level agreement with London Hydro.	(280)
Other miscellaneous revenues account for a small increase.	140
<b>Total Revenue Increase of 5.2 % - Rate Increase of 8%</b>	<b>2,930</b>

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Overview of Program Changes - Expenditures**  
**(\$000's)**

<b>Explanation of Changes in Expenditures</b>	<b>Change (000's)</b>
The outside cost of purchasing water from the Elgin Area and Lake Huron Primary Water Supply Systems which are anticipated to increase by 7% and 5% respectively (subject to Joint Board of Management approval).	851
Wage, salary, and benefit adjustments taking into account employment agreements have led to a small increase compared to 2011 (the OMERS increase is also accommodated in this budget category).	140
Cost increases associated with the new Southeast Reservoir and Pumping Station	153
Contracted services provided by London Hydro	131
General Administration and Financial Expenses (offset by a partial transfer of billing and administration costs to Wastewater and Treatment to continue to move gradually to full sharing of these costs).	(279)
<b>Operating Related</b>	<b>996</b>
Increased contributions to reserve funds to reflect changes to the 20 Year Water System Plan.	521
Increased capital levy to continue the practice of pay-as-you-go financing for life cycle renewal projects.	1,175
Increased debt servicing costs resulting from debt issued in 2011 for prior years approved capital projects.	238
<b>Capital Related</b>	<b>1,934</b>
<b>Total Expenditures Increase of 5.2% - Rate Increase of 8%</b>	<b>2,930</b>



**Planning, Environmental and Engineering Services Department**  
**Water**  
**Four Year Operating Forecast**

**Revenue**

The projected rate increases of 8% from 2013 - 2015 and 7% in 2016 have been incorporated into the 20 Year Water System Plan. While the declining water consumption trend helps to postpone future works, it is placing significant pressure on the City's capacity to raise funds to operate, maintain and improve the existing system. Since water consumption has been declining at a more rapid pace than originally projected, Administration has re-forecasted its long-term water consumption estimates and rates to ensure financial sustainability is achieved. Deviations from these projections or changes to the economic climate or legislative requirements may result in modifications to the 20 Year Water System Plan to ensure sustainability is achieved in an acceptable timeframe.

**Engineering & Operations**

The forecast from 2013 to 2016 for all operating budget categories, with the exception of the Purchase of Water, are projected to increase by an anticipated rate of inflation of 3%. Budget drivers impacting the Purchase of Water are net water demand and rate increases imposed by the Regional Water Supply. Net demand for water is projected to decrease by 0.75% annually. It should be noted that the annual transfer in the amount of \$250,000 to balance administrative costs from Water to Wastewater and Treatment will be completed by 2013.

**Capital Financing**

The forecast from 2013 to 2016 projects a continued increase in the capital levy to fund the increase in life cycle renewal projects consistent with the Corporate Strategic Financial Plan approved by Council. Contributions to reserve funds are also projected to increase annually during this period.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Four Year Operating Forecast**  
**(\$000's)**

Program	2012 Proposed Budget	2013 Budget Forecast	Incr. /(Decr.) Over 2012		2014 Budget Forecast	Incr. /(Decr.) Over 2013		2015 Budget Forecast	Incr. /(Decr.) Over 2014		2016 Budget Forecast	Incr. /(Decr.) Over 2015	
			\$	%		\$	%		\$	%		\$	%
Water Rate Forecast	8.0%	8.0%			8.0%			8.0%			7.0%		
<b>Revenues</b>													
Residential	31,803	34,109	2,306	7.3%	36,582	2,473	7.3%	39,235	2,653	7.3%	41,688	2,453	6.3%
Commercial, Inst., Ind. & Multi Family Residential	25,794	27,665	1,871	7.3%	29,671	2,006	7.3%	31,823	2,152	7.3%	33,812	1,989	6.3%
Other Revenues	2,080	2,142	62	3.0%	2,206	64	3.0%	2,272	66	3.0%	2,340	68	3.0%
<b>Total Revenues</b>	<b>59,677</b>	<b>63,916</b>	<b>4,239</b>	<b>7.1%</b>	<b>68,459</b>	<b>4,543</b>	<b>7.1%</b>	<b>73,330</b>	<b>4,871</b>	<b>7.1%</b>	<b>77,840</b>	<b>4,510</b>	<b>6.2%</b>
<b>Administration &amp; Capital Financing</b>													
General Administration & Financial Expenses	3,356	3,207	(149)	-4.4%	3,303	96	3.0%	3,402	99	3.0%	3,504	102	3.0%
Billings & Customer Service	1,901	1,958	57	3.0%	2,017	59	3.0%	2,078	61	3.0%	2,140	62	3.0%
Debt Servicing Costs	259	526	267	103.1%	515	(11)	-2.1%	515	0	0.0%	515	0	0.0%
Capital Funding	20,122	22,915	2,793	13.9%	25,996	3,081	13.4%	29,338	3,342	12.9%	32,262	2,924	10.0%
<b>Total Administration &amp; Capital Financing</b>	<b>25,638</b>	<b>28,606</b>	<b>2,968</b>	<b>11.6%</b>	<b>31,831</b>	<b>3,225</b>	<b>11.3%</b>	<b>35,333</b>	<b>3,502</b>	<b>11.0%</b>	<b>38,421</b>	<b>3,088</b>	<b>8.7%</b>
<b>Engineering</b>													
Engineering	1,363	1,404	41	3.0%	1,446	42	3.0%	1,489	43	3.0%	1,534	45	3.0%
Purchase of Water	19,870	20,715	845	4.3%	21,596	881	4.3%	22,514	918	4.3%	23,471	957	4.3%
<b>Total Engineering</b>	<b>21,233</b>	<b>22,119</b>	<b>886</b>	<b>4.2%</b>	<b>23,042</b>	<b>923</b>	<b>4.2%</b>	<b>24,003</b>	<b>961</b>	<b>4.2%</b>	<b>25,005</b>	<b>1,002</b>	<b>4.2%</b>
<b>Operations</b>													
Water Meters	1,375	1,416	41	3.0%	1,458	42	3.0%	1,502	44	3.0%	1,547	45	3.0%
Pumping & Storage	2,855	2,941	86	3.0%	3,029	88	3.0%	3,120	91	3.0%	3,214	94	3.0%
Maintenance & Construction	7,526	7,752	226	3.0%	7,985	233	3.0%	8,225	240	3.0%	8,472	247	3.0%
Water Operations Administration	1,050	1,082	32	3.0%	1,114	32	3.0%	1,147	33	3.0%	1,181	34	3.0%
<b>Total Operations</b>	<b>12,806</b>	<b>13,191</b>	<b>385</b>	<b>3.0%</b>	<b>13,586</b>	<b>395</b>	<b>3.0%</b>	<b>13,994</b>	<b>408</b>	<b>3.0%</b>	<b>14,414</b>	<b>420</b>	<b>3.0%</b>
<b>Total Expenditures</b>	<b>59,677</b>	<b>63,916</b>	<b>4,239</b>	<b>7.1%</b>	<b>68,459</b>	<b>4,543</b>	<b>7.1%</b>	<b>73,330</b>	<b>4,871</b>	<b>7.1%</b>	<b>77,840</b>	<b>4,510</b>	<b>6.2%</b>

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Engineering & Operations**  
**Performance Measures and Staffing 2006-2016**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Performance Measures	Actual	Actual	Actual	Actual	Actual	Expected	Forecast				
Activity Measures											
Water sold in million cubic meters <sup>(1)</sup>	49.5	49.9	46.7	45.0	45.3	44.5	44.5	44.2	43.9	43.5	43.2
Lead services replaced	333	476	651	628	590	325	560	545	530	515	500
Water meters installed	5,794	5,531	5,200	11,400	10,054	12,000	14,000	15,000	15,000	15,000	15,000
km of new watermain (km)	32.5	15.4	11.0	8.7	9.1	11.0	12.0	12.0	12.0	12.0	12.0
km of watermain replaced (km) <sup>(2)</sup>	9.3	11.3	8.8	10.4	14.8	7.0	7.0	11.0	11.0	10.5	14.0
Total km of watermain rehabilitated	11.7	14.9	11.0	9.7	4.2	5.0	5.7	6.3	7.0	7.7	8.4
Total km of watermain	1,494	1,518	1,539	1,544	1,552	1,563	1,575	1,587	1,599	1,611	1,623
% of existing mains renewed	1.41%	1.73%	1.28%	1.30%	1.22%	0.75%	0.81%	1.09%	1.13%	1.13%	1.38%
Efficiency Measures											
Average cost for residential customer <sup>(3)</sup>	\$254	\$274	\$271	\$280	\$301	\$295	\$319	\$337	\$360	\$385	\$405
Residential consumption (1000's litres per year)	221.3	224.6	206.6	197.1	196.5	192.6	192.6	188.4	186.4	184.4	182.4
Non revenue water (% of pumped) <sup>(4)</sup>	7.4	7.7	7.4	8.9	10.2	10.2	9.5	9.0	9.0	9.0	9.0
Effectiveness / Quality / Satisfaction Measures											
# of boil water advisories	0	0	0	0	0	0	0	0	0	0	0
# of watermain breaks per 100 km <sup>(5)</sup>	8.9	12.4	7.9	7.3	8.2	8.0	8.0	7.0	7.0	7.0	7.0
Ministry of Environment Report Card score <sup>(6)</sup>	95.38%	98.19%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Water quality complaints <sup>(7)</sup>	942	887	468	261	281	290	300	305	310	310	305
Water rate increases (%) <sup>(1)</sup>	4.0	5.0	5.0	8.0	8.0	0.0	8.0	8.0	8.0	8.0	7.0
Staffing											
Full-time equivalents #	90.6	92.2	89.1	92.3	91.8	95.4	96.4	96.4	96.4	96.4	96.4
Increase / (Decrease) over previous year	(4.0)	1.6	(3.1)	3.2	(0.5)	3.6	1.0	0.0	0.0	0.0	0.0
Full-time employees #	78	78	77	78	79	81	81	81	81	81	81
Increase / (Decrease) over previous year	(2)	0	(1)	1	1	2	0	0	0	0	0

**Notes:**

(1) Based on 20 Year Financial Plan (revised summer 2011).

(2) 2009-2010 - Projects advanced due to corporate stimulus funding.

(3) The average cost per household per year in 2011 and 2012 is based on residential consumption of 192.6 m<sup>3</sup>.

(4) Dependent on non-revenue usage (fire, flushing, meter inaccuracy), main breaks, and leakage.

(5) Dependent on renewal programs and weather (temperature).

(6) MOE Report Card started in 2006.

(7) Drop in complaints coincides with pH adjustment.

**Planning, Environmental and Engineering Services Department**

**Water**

**2012 Capital Budget**

**With Forecasts**

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Program**  
**(\$000's)**

Service Grouping: Water	2012 Proposed Budget -	\$21,506
Committee: Built and Natural Environment Committee	2013 - 2016 Forecast -	\$127,489

**Objective:** The Water Capital program includes transmission and distribution piping, pumping stations, and reservoir storage to meet the growth demands of the city as well as repair and rehabilitation to extend the life cycle of existing infrastructure. The elements in this program are generally outlined in such engineering studies and documents as the Water Master Plan or the Water Distribution System Needs Analysis, or resulting from ongoing modeling and analysis of the existing system.

Page Number	Project Number	Project	Life Cycle Renewal	Growth	Service Improvement	Non-TCA Capital <sup>(1)</sup>
34	EW1612-12	Meters & Devices	400			
46	EW1627-12	Meter Replacement Program			1,800	
34	EW3409-12	Pumping Stations Major Repairs	150			
34	EW3526	Arva Pumping Station Upgrades	50			
49	EW3528	Quality Management System Audits				10
49	EW3533-12	Lead Mitigation Strategy				106
35	EW3540	Elgin Middlesex Pumping Station - Capital Maintenance	50			
35	EW3541	Elgin Middlesex Pumping Station - SCADA Upgrade	300			
46	EW3543	Scouthdale West Main Replacement			105	
35	EW3550	Royal York Watermain Replacement	80			
36	EW3563-12	Main Cleaning & Relining	3,676			
37	EW3627	SCADA Equipment Replacement	90			
43	EW3628	Expansion of Southeast Pressure Zone		1,200		
44	EW3685	Oxford Street West Feeder Watermain		236		



**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Program**  
**(\$000's)**

Service Grouping: Water	2012 Proposed Budget -	\$21,506
Committee: Built and Natural Environment Committee	2013 - 2016 Forecast -	\$127,489

Page Number	Project Number	Project	Life Cycle Renewal	Growth	Service Improvement	Non-TCA Capital <sup>(1)</sup>
38	EW3708	Trunk Watermain Valve Chambers	400			
39	EW3717-12	Inspect Trunk Concrete Pressure	720			
49	EW3754-12	Abandoned Wells Decommissioning				331
39	EW3765-12	Main Replacement - Engineering	6,135			
50	EW3772-12	Water Efficiency Program				350
39	EW3787-12	Main Replacements with Major Road Works	2,255			
47	EW3805	Local Improvement - White Oak Road Industrial Subdivision Water Cost Sharing			1,050	
48	EW3817-12	Watermain Oversizing Costs			50	
40	EW3833-12	Main Replacement Maintenance	882			
40	EW3842-12	Replace Lead Water Services	750			
48	EW3851-12	New Meters for Development			330	
		<b>Total by Classification</b>	<b>\$15,938</b>	<b>\$1,436</b>	<b>\$3,335</b>	<b>\$797</b>
		<b>Total 2012 Water Capital</b>	<b>\$21,506</b>			

(1) The following items are classified as Non-TCA Capital (previously classified as Life Cycle Renewal or Service Improvement) and any unspent money at year end will be moved into Non-TCA reserves for future spending. Non-TCA Capital items represent items that are classified as capital for budget purposes but are not considered Tangible Capital assets for financial reporting.

**Planning, Environmental and Engineering Services Department  
Water  
Capital Expenditure Summary by Classification  
(\$000's)**

<b>Water</b>	<b>Prior Years</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017 to 2021</b>	<b>Total</b>
Life Cycle Renewal	6,758	16,219	15,938	19,350	18,571	20,557	23,811	123,508	244,712
Growth	11,680	4,211	1,436	3,343	10,193	6,325	9,152	12,054	58,394
Service Improvement	0	2,573	3,335	4,350	2,180	3,139	3,250	14,985	33,812
Non-TCA Capital	150	347	797	837	797	797	837	2,670	7,232
<b>Total Water</b>	<b>18,588</b>	<b>23,350</b>	<b>21,506</b>	<b>27,880</b>	<b>31,741</b>	<b>30,818</b>	<b>37,050</b>	<b>153,217</b>	<b>344,150</b>

Council approved the Capital Budget for 2011 on February 28, 2011 at \$23.35 million.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Source of Financing Summary**  
**(\$000's)**

<b>Water</b>	<b>Prior Years</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017 to 2021</b>	<b>Totals</b>
<b>RATE SUPPORTED</b>									
Capital Water Rates	2,483	11,400	12,575	13,715	14,900	15,534	16,310	94,715	181,632
Capital Water Reserve Fund	5,193	7,100	6,813	10,415	9,164	7,850	11,233	47,813	105,581
Industrial Oversizing Water Reserve Fund	5,383	220	204	391	3,241	2,292	409	2,077	14,217
Debenture	1,208								1,208
<b>Total Rate Supported</b>	<b>14,267</b>	<b>18,720</b>	<b>19,592</b>	<b>24,521</b>	<b>27,305</b>	<b>25,676</b>	<b>27,952</b>	<b>144,605</b>	<b>302,638</b>
<b>NON-RATE SUPPORTED</b>									
Debenture - Non Rate Supported (City Services - Water Reserve Fund)							8,493		8,493
City Services Water Reserve Fund (Note 1)	4,142	3,365	474	1,944	3,993	4,069	117	4,959	23,063
City Services Corporate Services Reserve Fund	179	59	24	157	24	24	69	298	834
Federal Gas Tax Grant		419	629	628	419	419	419	2,095	5,028
Other Contributions (Prov Grants, Cash Payments, Stimulus Funding)		787	787	630		630		1,260	4,094
<b>Total Non-Rate Supported</b>	<b>4,321</b>	<b>4,630</b>	<b>1,914</b>	<b>3,359</b>	<b>4,436</b>	<b>5,142</b>	<b>9,098</b>	<b>8,612</b>	<b>41,512</b>
<b>Total Sources of Financing</b>	<b>18,588</b>	<b>23,350</b>	<b>21,506</b>	<b>27,880</b>	<b>31,741</b>	<b>30,818</b>	<b>37,050</b>	<b>153,217</b>	<b>344,150</b>

Growth splits for 2010 and beyond are consistent with the 2009 Development Charge Study.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>				<b>Category: Life Cycle Renewal</b>					
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW1612-12 Meters &amp; Devices</b>		400	400	400	400	400	400	800	3,200
Purchase and installation of new water meters, valves and related equipment. Includes cost of meters for all new development and as required for individual metering of existing condominiums. To ensure fair billings based on actual water consumption.									
<b>2012 Financing:</b> Water Rates									
<b>EW2310 Western Road Watermain Replacement</b>								1,300	1,300
To replace the watermain on Western Road from Platt's Lane to Oxford Street.									
<b>EW3409-12 Pumping Stations Major Repairs</b>		150	150	150	150	150	150	750	1,650
Purchase and installation of major equipment to maintain or optimize the efficiency and effectiveness of the water control system, including bulk water filling stations.									
<b>2012 Financing:</b> Water Rates									
<b>EW3525 Cathodic Protection Program</b>	275				50			100	425
To implement, test and monitor Cathodic Protection on steel, concrete and ductile iron watermain to prolong the lifespan of existing watermain.									
<b>EW3526 Arva Pumping Station Upgrades</b>	2,988	50	50	50	50	50	50	250	3,538
To undertake major valve maintenance. Equipment is 40 years old and requires ongoing repairs.									
<b>2012 Financing:</b> Water Rates									

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>				<b>Category: Life Cycle Renewal</b>					
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3540 EMPS - Capital Maintenance</b>	1,350	50	50	50	50	50	50	250	1,900
Project required for maintenance and upgrades to Elgin-Middlesex (London) Pumping Station at St. Thomas. Replacement of Pumps 4 & 5 and associated mechanical/electrical equipment in 2011, in conjunction with commissioning of the Southeast Reservoir and Pumping Station.									
<u><b>2012 Financing:</b> Water Rates</u>									
<b>EW3541 EMPS - SCADA Upgrade</b>	300		300					300	900
To repair and upgrade equipment controllers and computerized SCADA system at Elgin Middlesex Pumping Station.									
<u><b>2012 Financing:</b> Water Rates</u>									
<b>EW3550 Royal York Watermain Replacement</b>			80	700					780
To replace the watermain on Royal York Road from Hyde Park Road to Oxford Street.									
<u><b>2012 Financing:</b> Water Reserve Fund</u>									



**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>				<b>Category: Life Cycle Renewal</b>					
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3563-12 Main Cleaning &amp; Relining</b>		3,025	3,676	4,176	4,676	5,176	5,676	35,880	62,285
An annual program for the cleaning and relining of existing watermain on streets throughout the City of London in order to maintain flow capacity and provide safe, cost effective water.									
<b>2012 Financing:</b>									
Water Rates			\$1,133						
Water Reserve Fund			1,914						
Federal Gas Tax Grant			629						
Total Financing			\$3,676						
<b>EW3572 Commissioners Road Watermain Replacement</b>					50	1,000			1,050
To replace the watermain on Commissioners Road from Wharncliffe Road to Wonderland Road - Phase II. New watermain required to replace existing system which has surpassed its useful life.									
<b>EW3580 Huron Street River Crossing Remedial Work</b>	270	300		2,600				500	3,670
To replace the existing 600mm watermain under Thames River behind Huron Street and Philip Aziz Avenue.									

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

**Service Grouping: Water**

**Category: Life Cycle Renewal**

	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3617 Springbank Reservoir No. 2 Replacement</b>	450						485	3,150	4,085

Springbank Reservoir Cell No. 2 reconstruction is the second largest project on Water's Long Term Plan. An assessment of storage needs and changes to the operational procedures have increased the anticipated service life. Deferral of the project by 10 years is expected and results in significant debt deferral for the water utility. Interim inspection and repair costs can be accommodated within the current maintenance funding of the reservoir. Further studies will be undertaken to assess the timing and location for additional reservoir capacity following construction of the Southeast Reservoir.

<b>EW3624 Burbrook Area Watermain Upgrade Phase II</b>					1,000	600	1,350	3,700	6,650
--	--	--	--	--	-------	-----	-------	-------	-------

Replacement of watermain and water service in the existing Burbrook Trunk Storm Sewer and Burbrook Lateral area. New watermain required to replace undersized existing system which has surpassed its useful life. Coordinated with Sewer Project ES3054 and ES3058.

<b>EW3627 SCADA Equipment Replacement</b>	75		90			105		255	525
---	----	--	----	--	--	-----	--	-----	-----

The planned replacement of existing SCADA equipment.

**2012 Financing: Water Rates**

<b>EW3656 Wellington Road Watermain Replacement</b>	525			882	998		750		3,155
---	-----	--	--	-----	-----	--	-----	--	-------

To replace the watermain on Wellington Road from the Thames River to Baseline Road. New watermain required to replace existing system which has surpassed its useful life. Coordinated with Sewer Project ES2464 - Separation and CSO Program.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>		<b>Category: Life Cycle Renewal</b>							
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3674 Wharncliffe Road Watermain Replacement</b>								563	563
To replace watermain on Wharncliffe Road between Becher Street and Springbank Drive coordinated with transportation project TS-1355.									
<b>EW3702 Fanshawe Park Road Watermain Replacement</b>						184	1,658		1,842
To replace the watermain on Fanshawe Park Road from Adelaide Street to Highbury Avenue. Coordinated with Transportation Project TS1475 and Sewer Project ES4424.									
<b>EW3707 Southdale Road Watermain Replacement</b>								1,909	1,909
The replacement and rehabilitation of existing watermain on Southdale Road between Wellington Road and Pond Mills in conjunction with Transportation Road Project TS1487 Road Widening and Sewer Project LI2040.									
<b>EW3708 Trunk Watermain Valve Chambers</b>	420		400			400		400	1,620
To install new valves on existing trunk watermain.									
<b>2012 Financing: Water Rates</b>									
<b>EW3710 Downtown Watermain Replacement</b>	105	1,500			105	1,500		3,210	6,420
To replace deficient watermain and services. Useful life of watermain and water services surpassed or undersized. Coordinated with Roads Project TS1306 and Sewer Replacement Program.									

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>				<b>Category: Life Cycle Renewal</b>					
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3713 Sarnia Road Watermain Replacement</b>								1,366	1,366
To replace the watermain on Sarnia Road from Wonderland Road to Sleightholme Road. New watermain required to replace existing system which has surpassed it's useful life. Construction scheduled in 2021 deferred from 2012. Coordinated with Transportation Project TS1484 which has been deferred to beyond 2021 under Development Charges - related deferrals approved by Council & London Land Developers Association (LDI) October 2010.									
<b>EW3717-12 Inspect Trunk Concrete Pressure</b>		1,000	720	320	320	320	320	1,600	4,600
Project required for structural analysis of existing 900mm to 1,350mm concrete watermain.									
<u>2012 Financing: Water Rates</u>									
<b>EW3765-12 Main Replacement - Engineering</b>		5,699	6,135	6,135	6,635	6,635	8,735	46,290	86,264
An annual program for replacement of watermain and water services as outlined in the Condition Assessment Program Needs Study. New watermain and water services required to replace existing systems which have surpassed useful life. New water supply required to provide fire flows to the community. Coordinated with Sewer Project ES2414 - Sewer Replacement Program.									
<u>2012 Financing: Water Rates</u>									
<b>EW3787-12 Main Replacements with Major Road Works</b>		2,755	2,255	2,255	2,455	2,355	2,555	12,775	27,405
Replacement of watermain that have reached their useful lifespan. Coordinated with major road works.									
<u>2012 Financing: Water Rates</u>									

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>		<b>Category: Life Cycle Renewal</b>							
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3833-12 Main Replacement Maintenance</b>		840	882	882	882	882	882	4,410	9,660
Maintenance of existing watermain and service replacements as identified by the Needs Study. Useful life of watermain may have expired, be undersized and/or inadequate to supply fire flow to present standards.									
<u>2012 Financing: Water Rates</u>									
<b>EW3842-12 Replace Lead Water Services</b>		450	750	750	750	750	750	3,750	7,950
Fifteen year program to replace lead water services. Recommendation from the Walkerton Inquiry Report states "lead service lines should be located and replaced over time with safer materials". This work has been incorporated into our Lead Service Replacement Program.									
<u>2012 Financing: Water Reserve Fund</u>									
<b>Balance of approved projects for prior years comparison</b>									0
<b>Total Life Cycle Renewal</b>		6,750	16,219	16,938	19,350	18,571	20,557	23,811	123,508
									244,712



**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>		<b>Category: Growth</b>							
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW1503 Development Charges Background Study</b>	84	60					60	60	264
Background study to determine future watermain needs to service growth, timing and growth splits. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (75% DC Rate Supported).									
<b>EW3312 Water Distribution System Master Plan</b>	155			155				155	465
To update the City's Water Distribution System Master Plan to support the calculation of Development Charges. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (83.5% DC Rate Supported).									
<b>EW3551 Hyde Park - Samia Road High Level Watermain - Phase II</b>					218	1,959			2,177
Construction of 400mm, 450mm and 600mm watermains in the high level area of Northwest London. Watermain installation required to service customers in the Hyde Park High Level area. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).									
<b>EW3590 Uplands Pumping Station Upgrade</b>					28	252			280
To upgrade the Uplands Pumping Station to serve future growth in North London. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).									

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>							<b>Category: Growth</b>	
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021 Total
<b>EW3591 Hyde Park Pumping Station Upgrade</b>					55	495		550
To upgrade the Hyde Park Pumping Station to serve future growth in Northwest London. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).								
<b>EW3595 Hyde Park Road Feeder Watermain</b>				227	2,045			2,272
To construct a 750mm watermain on Hyde Park Road from Sarnia Road to Oxford Street. Watermain installation required for water supply to West London. Coordinated with Sewer Project ES2493 and Transportation Project TS1477. Pumping Station to serve future growth in North London. Growth splits are consistent with the 2009 Development Charge Study. 35% Growth Related (33.8% DC Rate Supported).								
<b>EW3606 Southeast Pressure Zone Feeder Watermain</b>	6,366				325	2,622		9,313
To construct feeder watermain on Bradley Avenue from Jackson Road to Airport Road to service Airport Road Industrial Subdivision Development Phase II in 2009 and Southeast London from the Southeast Pumping Station and Reservoir. Coordinated with Industrial Land Project ID1168 and Sewer Oversizing Project ID2058. Incremental growth in the water distribution system will ultimately lead to increased operating costs. Growth splits are consistent with the 2009 Development Charge Study. 99.2% Growth Related (15.3% DC Rate Supported).								

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>		<b>Category: Growth</b>							
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3611 Highbury Avenue South Trunk Watermain</b>				531	4,783				5,314
Construction of a 900mm diameter trunk watermain on Highbury Avenue from the Southeast Pumping Station to Dingman Drive to facilitate industrial growth in Southeast London. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (36.9% DC Rate Supported).									
<b>EW3628 Expansion of Southeast Pressure Zone</b>	400	500	1,200						2,100
To install pressure regulating valves and associated piping to service portions of Southeast London with the Southeast Pumping Station. Growth splits are consistent with the 2009 Development Charge Study. 40% Growth Related (25.2% DC Rate Supported).									
<b>2012 Financing:</b>									
Water Reserve Fund	\$743								
Industrial Oversizing Reserve Fund	154								
Development Charges	303								
<b>Total Financing</b>	<b>\$1,200</b>								
<b>EW3652 Wickerson High Level Watermain</b>	1,784	2,454					117	1,055	5,410
Construction of 400mm and 450mm watermain in the high level area of Southwest London. Watermain installation required to service future customers in the River Bend and Wickerson area. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (99.2% DC Rate Supported).									

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>								<b>Category: Growth</b>	
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3654 Arva Pumping Station Upgrade</b>								2,600	2,600
Upgrade the Arva Pumping Station including pump replacements that are required as water demand increases. Growth splits are consistent with the 2009 Development Charge Study. 50% Growth Related (47.2% DC Rate Supported).									
<b>EW3666 Wonderland Road North Feeder Watermain</b>	2,259			304	2,739			2,608	7,910
To construct a 600mm watermain on Wonderland Road North from Gainsborough Road to Sunningdale Road. Project required to upgrade North London area water supply. Coordinated with Transportation Project TS1156 and TS1354 - Road Widening. Growth splits are consistent with the 2009 Development Charge Study. 46% Growth Related (44.1% DC Rate Supported).									
<b>EW3685 Oxford Street West Feeder Watermain</b>			236	2,126					2,362
To construct a 600mm watermain on Oxford Street West from Hyde Park Road to Sanatorium Road. Watermain installation required to supply water to new developments in West London in conjunction with Transportation Project TS1493 and Sanitary Sewer Project ES2493. Growth splits are consistent with the 2009 Development Charge Study. 75% Growth Related (72.4% DC Rate Supported).									
<b>2012 Financing:</b>									
Water Reserve Fund									\$65
Development Charges									171
Total Financing									\$236

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>							<b>Category: Growth</b>		
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3692 Medway - Wonderland Road Trunk Watermains</b>						997	8,975		9,972
To construct a 1,500mm watermain from the Arva Pumping Station to the North London area. Trunk watermain required to supply future customers in North and West London. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (94.6% DC Rate Supported).									
<b>EW3709 Crumlin &amp; River Feeder Watermain Phase III</b>								2,670	2,670
To construct 450mm and 600mm watermains in Southeast London to service industrial land in the River Road Industrial area. Growth splits are consistent with the 2009 Development Charge Study. 77% Growth Related (33.1% DC Rate Supported).									
<b>EW3711 Gainsborough Road Feeder Watermain</b>								463	463
To construct a new 600mm watermain on Gainsborough Road between Wonderland Road North and Hyde Park Road for low level grid. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).									
<b>EW3712 White Oak Road Watermain Upsizing</b>	192	450						2,443	3,085
To construct a new 450mm watermain on White Oak Road between Dingman Drive and Exeter Road to service new development within the 20 year Urban Growth Area. Growth splits are consistent with the 2009 Development Charge Study. 35% Growth Related (8.4% DC Rate Supported).									
<b>Balance of approved projects for prior years comparison</b>	440	747							1,187
<b>Total Growth</b>	11,680	4,211	1,436	3,343	10,193	6,325	9,152	12,054	58,394



**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

**Service Grouping: Water**

**Category: Service Improvement**

	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW1627-12 Meter Replacement Program</b>		1,300	1,800	1,800	1,800	1,800	1,800	9,000	19,300
<p>Ten year program (estimated) to upgrade water meter and meter reading technology in light of changes being made by current meter reading/billing partner (London Hydro). Work continuing on a business case review of options and technology pilots. Funding program identified in this budget is based on transition to Automated Meter Reading System (AMR) for over 100,000 meters. If business case supports Automated Meter Reading System, current meter reading costs could be reduced over time.</p>									
<b>2012 Financing:</b> Water Reserve Fund									
<b>EW2404 New Vehicles &amp; Equipment</b>		173		130				260	563
<p>To purchase new vehicles to provide for planned growth of the water distribution system. Includes purchase of portable asphalt recycling equipment to facilitate better repairs to asphalt surfaces by watermain failures.</p>									
<b>EW3543 Southdale West Main Replacement</b>			105	1,200					1,305
<p>To replace/upsized the distribution watermain on Southdale Road between Wonderland Road and Wharncliffe Road. New watermain required to replace existing system which has surpassed its useful life and is undersized for the projected flow requirement.</p>									
<b>2012 Financing:</b> Water Reserve Fund									

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

**Service Grouping: Water**

**Category: Service Improvement**

	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3657 Westmount Area High Level System Distribution Improvements</b>								2,145	2,145
To replace and upsize the existing 300mm and 200mm watermains on Viscount Road (Wonderland Road to Belmont Drive) with 600mm and 450mm watermains. Watermains undersized for peak distribution needs. Identified in the High Level Water Distribution System Master Plan.									
<b>EW3658 Westmount Pumping Station to Viscount Road High Level Water Reinforcement</b>						119	1,070		1,189
To replace and upsize the existing 300mm and 400mm watermains on Wonderland Road (Westmount Pumping Station to Viscount Road) with 600mm watermain as identified in the High Level Water Distribution System Master Plan. Watermains undersized for peak distribution.									
<b>EW3743 Watermain Extensions</b>				840		840		1,680	3,360
Cost sharing project for the watermain extensions to unserved parts of the Urban Growth Area and beyond. City's share is approximately 25% of the total cost.									
<b>EW3805 Local Improvement - White Oak Road Industrial Subdivision Water Cost Sharing</b>		1,050	1,050						2,100
Cost sharing project for the installation of watermains in this existing industrial area. Coordinated with Sewer Project ES3111. City's share is approximately 25% of the total cost.									
<b>2012 Financing:</b>									
Water Reserve Fund		\$263							
Other Contribution			787						
Total Financing			\$1,050						

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>				<b>Category: Service Improvement</b>					
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3817-12 Watermain Oversizing Costs</b>		50	50	50	50	50	50	250	550
To accommodate oversizing costs to upsize feeder and distribution watermain.									
<b>2012 Financing:</b> Industrial Oversizing Reserve Fund									
<b>EW3851-12 New Meters for Development</b>			330	330	330	330	330	1,650	3,300
An annual program to purchase and install new water meters, valves and related equipment for new development. To ensure fair billings on actual water consumption for all new development connecting to the water distribution system.									
<b>2012 Financing:</b> Water Reserve Fund									
<b>Total Service Improvement</b>	0	2,573	3,335	4,350	2,180	3,139	3,250	14,985	33,812

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

**Service Grouping: Water**

**Category: Non-TCA Capital**

	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3528 Quality Management System Audits</b>	150	10	10	50	10	10	50	90	380

Through the "Safe Drinking Water Act" and the "Drinking Water Quality Management Standard" requires the City, as the operating authority, to be accredited. The requirements are fulfilled by establishing and maintaining a Quality Management System, including internal and external auditing.

**2012 Financing:** Water Rates

<b>EW3533-12 Lead Mitigation Strategy</b>	106	106	106	106	106	106	106	530	1,166
---	-----	-----	-----	-----	-----	-----	-----	-----	-------

An annual program to support the replacement of lead water services through increased public awareness of the Water By-law W-3. Recommendations from the Walkerton Inquiry states "lead service lines should be located and replaced over time with safer materials".

**2012 Financing:** Water Reserve Fund

<b>EW3754-12 Abandoned Wells Decommissioning</b>	31	331	331	331	331	331	331	300	1,986
--	----	-----	-----	-----	-----	-----	-----	-----	-------

To decommission former London Public Utilities Commission abandoned wells. Ontario Regulation 903. Section 21 (3) requires that the wells be properly decommissioned.

**2012 Financing:** Water Reserve Fund

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Capital Expenditure Detail**  
**(\$000's)**

<b>Service Grouping: Water</b>				<b>Category: Non-TCA Capital</b>					
	Prior Years	2011	2012	2013	2014	2015	2016	2017 to 2021	Total
<b>EW3772-12 Water Efficiency Program</b>		200	350	350	350	350	350	1,750	3,700
<p>To undertake a water efficiency strategy to promote awareness of water issues. Water efficiency/conservation program will be a requirement of the new Municipal Water Licensing Plan. 8% Growth Related (6.8% DC Rate Supported).</p>									
<b>2012 Financing:</b>									
Water Reserve Fund		\$326							
Development Charges		24							
Total Financing		\$350							
<b>Total Non-TCA Capital</b>	<b>150</b>	<b>347</b>	<b>797</b>	<b>837</b>	<b>797</b>	<b>797</b>	<b>837</b>	<b>2,670</b>	<b>7,232</b>
<b>Total Capital Plan</b>	<b>18,588</b>	<b>23,350</b>	<b>21,506</b>	<b>27,880</b>	<b>31,741</b>	<b>30,818</b>	<b>37,050</b>	<b>153,217</b>	<b>344,150</b>

**Planning, Environmental and Engineering Services Department**

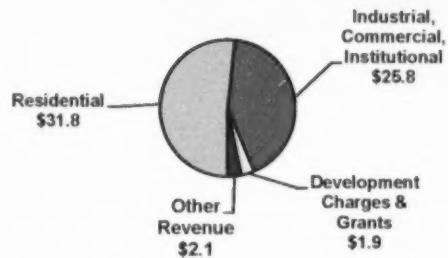
**Water**

**2012 Reserve Funds and Reserves**

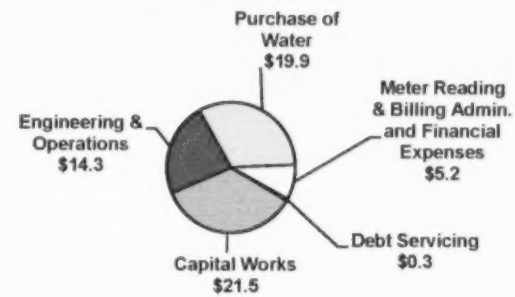


# Planning, Environmental and Engineering Services Department **Water** Simplified Water Funding Overview (\$millions)

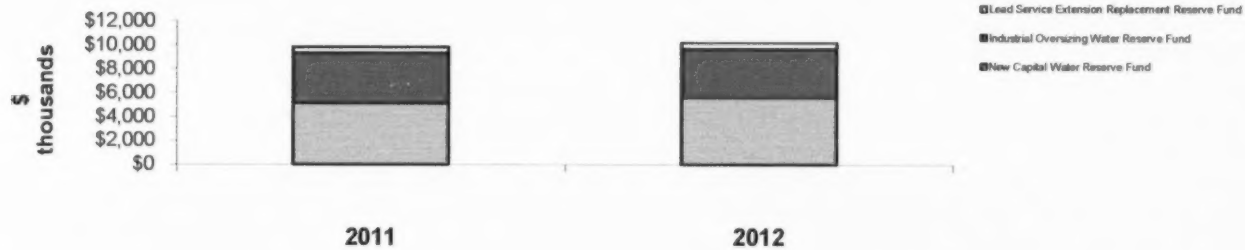
**Cash In**  
 Revenues (Rates, DC, Grants)  
 \$61.6 Million



**Cash Out**  
 Spending (Capital and Operating)  
 \$61.2 Million



## **Reserves /Reserve Funds Balances**



<b>Cash In</b> \$61.6 M	—	<b>Cash Out</b> \$61.2 M	=	<b>Change in Reserve Funds</b> \$0.4 M
----------------------------	---	-----------------------------	---	---

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Reserve Funds and Reserves**  
**(\$000's)**

New Capital Water Reserve Fund	Actual 2010	Projected 2011	Proposed 2012	Forecast				
				2013	2014	2015	2016	2017-2021
Opening Balance	\$23,709	\$20,909	\$5,119	\$5,590	\$4,089	\$4,071	\$7,267	\$10,978
Contributions from Operating Water Rates	9,079	6,684	7,177	8,817	9,064	10,932	14,761	61,716
Additional Contribution (surplus and account closing)	387							
Interest earned	455	258	107	97	82	114	183	1,981
	<b>\$33,630</b>	<b>\$27,851</b>	<b>\$12,403</b>	<b>\$14,504</b>	<b>\$13,235</b>	<b>\$15,117</b>	<b>\$22,211</b>	<b>\$74,675</b>
Operating Deficit	473							
Drawdowns - Current Year	5,257	7,100	6,813	10,415	9,164	7,850	11,233	47,813
Drawdowns - Prior Year	6,991	15,632						
Total Drawdowns (1)	<b>\$12,721</b>	<b>\$22,732</b>	<b>\$6,813</b>	<b>\$10,415</b>	<b>\$9,164</b>	<b>\$7,850</b>	<b>\$11,233</b>	<b>\$47,813</b>
<b>Ending Balance (2)</b>	<b>\$20,909</b>	<b>\$5,119</b>	<b>\$5,590</b>	<b>\$4,089</b>	<b>\$4,071</b>	<b>\$7,267</b>	<b>\$10,978</b>	<b>\$26,862</b>

**Notes:**

(1) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

(2) The reserve fund balance may increase/decrease subject to the 2011 year end operating position of the water operating budget.

Industrial Oversizing Water Reserve Fund	Actual 2010	Projected 2011	Proposed 2012	Forecast				
				2013	2014	2015	2016	2017-2021
Opening Balance	\$6,149	\$6,381	\$4,212	\$4,090	\$3,777	\$2,195	\$2,348	\$2,487
Contributions from Operating Water Rates	800				1,600	2,400	500	2,500
Interest earned	179	105	82	78	59	45	48	263
	<b>\$7,128</b>	<b>\$6,486</b>	<b>\$4,294</b>	<b>\$4,168</b>	<b>\$5,436</b>	<b>\$4,640</b>	<b>\$2,896</b>	<b>\$5,250</b>
Drawdowns - Current Year	45	220	204	391	3,241	2,292	409	2,077
Drawdowns - Prior Year	702	2,054						
Total Drawdowns (1)	<b>\$747</b>	<b>\$2,274</b>	<b>\$204</b>	<b>\$391</b>	<b>\$3,241</b>	<b>\$2,292</b>	<b>\$409</b>	<b>\$2,077</b>
<b>Ending Balance</b>	<b>\$6,381</b>	<b>\$4,212</b>	<b>\$4,090</b>	<b>\$3,777</b>	<b>\$2,195</b>	<b>\$2,348</b>	<b>\$2,487</b>	<b>\$3,173</b>

**Notes:**

(1) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

(2) This reserve fund was established to provide funding for the servicing costs in Industrial Developments and oversizing in growth projects.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Reserve Funds and Reserves**  
**(\$000's)**

City Services - Water Levies Reserve Fund	Actual 2010	Projected 2011	Proposed 2012	Forecast				
				2013	2014	2015	2016	2017-2021
Opening Balance	\$14,657	\$10,318	\$5,498	\$6,355	\$5,914	\$3,524	\$1,106	\$2,631
Levies	1,213	1,101	1,214	1,382	1,510	1,605	1,605	8,025
Interest earned	135	157	117	121	93	46	37	290
	<b>\$16,005</b>	<b>\$11,576</b>	<b>\$6,829</b>	<b>\$7,858</b>	<b>\$7,517</b>	<b>\$5,175</b>	<b>\$2,748</b>	<b>\$10,946</b>
Refunds	3	64	0	0	0	0	0	0
Forecasted Future Debt	0	0	0	0	0	0	0	4,292
Drawdowns - Current Year	1,067	3,365	474	1,944	3,993	4,069	117	4,959
Drawdowns - Prior Year	4,617	2,649	0	0	0	0	0	0
Total Drawdowns (1)	<b>\$5,687</b>	<b>\$6,078</b>	<b>\$474</b>	<b>\$1,944</b>	<b>\$3,993</b>	<b>\$4,069</b>	<b>\$117</b>	<b>\$9,251</b>
<b>Ending Balance</b>	<b>\$10,318</b>	<b>\$5,498</b>	<b>\$6,355</b>	<b>\$5,914</b>	<b>\$3,524</b>	<b>\$1,106</b>	<b>\$2,631</b>	<b>\$1,695</b>

Notes:

(1) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

Lead Service Replacement Program Reserve Fund	Actual 2010	Projected 2011	Proposed 2012	Forecast				
				2013	2014	2015	2016	2017-2021
Opening Balance	492	\$496	\$490	\$509	\$528	\$548	\$568	\$588
Contributions from Operating Water Rates	0	0	0	0	0	0	0	0
Repayment of Lead Replacement Program	4	9	9	9	9	9	9	30
Interest earned	6	10	10	10	11	11	11	62
	<b>\$502</b>	<b>\$515</b>	<b>\$509</b>	<b>\$528</b>	<b>\$548</b>	<b>\$568</b>	<b>\$588</b>	<b>\$680</b>
Loans - Lead Replacement Program	6	25	0	0	0	0	0	0
Total Loans	<b>\$6</b>	<b>\$25</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Ending Balance</b>	<b>\$496</b>	<b>\$490</b>	<b>\$509</b>	<b>\$528</b>	<b>\$548</b>	<b>\$568</b>	<b>\$588</b>	<b>\$680</b>

Notes:

(1) The purpose of this reserve is to provide the funding mechanism for the Lead Service Extension Replacement Loan Program. Program is designed to assist with the private portion of lead service replacement. Repayment will be made over 10 years. The funding requirement is dependant on the number of households who take advantage of this pilot program. Any balance remaining in this reserve fund at the end of the Lead Service Replacement Loan Program will be returned to the New Capital Water Reserve Fund.

**Planning, Environmental and Engineering Services Department**  
**Water**  
**Reserve Funds and Reserves**  
**(\$000's)**

Efficiency, Effectiveness, and Economy Reserve	Actual 2010	Projected 2011	Proposed 2012	Forecast				
				2013	2014	2015	2016	2017-2021
Opening Balance	\$176	\$208	\$208	\$208	\$208	\$208	\$208	\$208
Contributions	32							
	\$208	\$208	\$208	\$208	\$208	\$208	\$208	\$208
Drawdowns	0	0	0	0	0	0	0	0
<b>Ending Balance</b>	<b>\$208</b>	<b>\$208</b>	<b>\$208</b>	<b>\$208</b>	<b>\$208</b>	<b>\$208</b>	<b>\$208</b>	<b>\$208</b>

**Planning, Environmental and Engineering Services Department**

**Water**

**2012 Debt Summary**

**Planning, Environmental, and Engineering Services Department**  
**Water**  
**Debt Summary - Rate Supported**  
**(\$ millions)**

The Water capital budget forecast for the 2012 - 2021 capital plan contains zero debt financing as outlined in the table below.

<b>Rate Supported - Projected Debt Financing</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Capital Projects Funded by Rate - Supported Debentures <sup>(1)</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(1) Debt servicing cost will be covered by operating revenue generated by Water rates.

The Water system has been maintained using pay-as-you-go capital financing. At December 31, 2011, the total net Water debt outstanding will approximate \$2.1 million, with a total of \$2.3 million of authorized but not issued debt. In March 2011, the City issued \$2.0 million of debt on the Dundas Street Watermain Replacement Project that was related to Infrastructure Stimulus Projects. The long term financial goal is to continue to fund water system capital works using pay-as-you-go sources as the primary source of funding.

By 2013 the annual debt servicing costs will be approximately \$0.5 million as outlined in the table below.

<b>Annual Debt Servicing Costs (excluding Joint Boards)</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Water Budget - Rate Supported	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

The Water budget carries debt associated with the City's share of debt issued by the Joint Boards (debt issued for capital works necessary to bring potable water from Lake Huron and Lake Erie to the City system). This will be approximately \$5.7 million at the end of 2011. Debt payments tied to the City's share of the Joint Board debt are made indirectly as part of the purchase of water rate charged to the City by the Joint Boards and is estimated to be approximately \$0.9 million in 2012.



**Planning, Environmental and Engineering Services Department**  
**Water**  
**Debt Summary - Non Rate Supported**  
**(\$ millions)**

The Water capital budget forecast includes non rate supported (DC) debt financing of \$8.5 million as part of the 2012 - 2021 capital plan as highlighted below. This represents a \$1.1 million increase in debt financing over what was forecasted last year predominantly due to lower projected development charge revenues.

<b>Projected Debt Financing (Non Rate Supported)</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Capital Projects Funded by Non Rate Supported Debentures	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0

At December 31, 2011, there is zero non rate supported debt outstanding nor debt authorized but unissued.

Non rate supported debt in the Water budget is funded through Development Charges in accordance with the 2009 DC Background Study rather than water rates. The funding of this debt by applicable reserve fund is identified in the reserve fund section of the 2012 Water Budget.

<b>Annual Debt Servicing Costs funded through DC's</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Wastewater Budget - Non Rate Supported (DC)	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.1

The debt projections above are based on a modest pace of spending against approved capital project budgets and the proposed capital plan, consistent with recent experience. If the pace of spending increases, debt will be issued sooner, and the total debt outstanding along with the annual debt servicing costs could exceed current projections.

**Planning, Environmental and Engineering Services Department**

**Water**

**2012 Schedule of Rates and Charges**

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Schedule of Rates and Charges**

**Effective Dates**

**Monthly Rates and Charges**

Comes into effect on January 1, 2012.

**Equipment Rentals**

Comes into effect on January 1, 2012.

**Miscellaneous Charges**

Comes into effect on January 1, 2012.

**Monthly Rates and Charges**

	<b><u>2011 Approved Rates</u></b>	<b><u>2012 Proposed Rates</u></b>
<b><u>Residential</u></b>		
First 16.990 m <sup>3</sup>	\$1.49531/m <sup>3</sup>	\$1.61493/m <sup>3</sup>
Next 39.644 m <sup>3</sup>	\$1.57181/m <sup>3</sup>	\$1.69755/m <sup>3</sup>
All additional m <sup>3</sup>	\$1.64714/m <sup>3</sup>	\$1.77891/m <sup>3</sup>
Minimum monthly charge	\$5.00	\$5.00
<b><u>Commercial, Institutional, Industrial &amp; Multi Family Residential</u></b>		
First 2.832 m <sup>3</sup>	\$5.72569/m <sup>3</sup>	\$6.18375/m <sup>3</sup>
Next 707.925 m <sup>3</sup>	\$0.98037/m <sup>3</sup>	\$1.05880/m <sup>3</sup>
All additional m <sup>3</sup>	\$0.80967/m <sup>3</sup>	\$0.87444/m <sup>3</sup>
Minimum monthly charge	\$5.00	\$5.00

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Schedule of Rates and Charges (cont'd)**

	<u>2011 Approved Rates</u>	<u>2012 Proposed Rates</u>
<u><b>Water Meters</b></u>		
Meter Size	Monthly Charge	Monthly Charge
16 mm	\$0.59	\$0.64
19 mm	\$0.65	\$0.70
25 mm	\$5.16	\$5.57
40 mm	\$10.07	\$10.88
50 mm	\$13.50	\$14.58
76 mm	\$33.67	\$36.36
100 mm	\$49.58	\$53.55
150 mm	\$83.71	\$90.41
200 mm	\$129.19	\$139.53
<u><b>Miscellaneous Charges</b></u>		
Non-payment of account		
Late payment charge	Monthly Interest Compounded	Monthly Interest Compounded
NSF cheques	\$12.77 + bank charges	\$13.79 + bank charges
Collection charge	\$13.26 per trip	\$14.32 per trip
Disconnection of Service		
During regular hours	\$27.27	\$29.45
After regular hours	\$43.01	\$46.45
Change of occupancy/Account set-up fee	\$30.00	\$30.00

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Schedule of Rates and Charges (cont'd)**

	<u>2011 Approved Rates</u>	<u>2012 Proposed Rates</u>
Arrears certificate charges (non-payment/arrears)	\$50.00 per property	\$50.00 per property
Disconnect and Reconnect meter at customer request		
Up to 25mm	\$54.82	\$59.21
Over 25mm	\$93.32	\$100.79
Install water meter and remote read-out unit at		
Customer Request	\$210.00	\$226.80
Repair damaged meter		
16 and 19 mm	\$144.36	\$155.91
25 mm and larger	Time and material	Time and material
Meter checked for accuracy at customer's request and found to be accurate		
Up to 25mm	\$107.90	\$116.53
Over 25mm	\$145.81	\$157.47
Watermain Tapping Charges		
Tap size of 50 mm or less	\$250.00	\$250.00
Tap size of greater than 50 mm	\$500.00	\$500.00
Tapping concrete watermain or tap size of greater than 300 mm	\$1,500.00	\$1,500.00

**Planning, Environmental and Engineering Services Department**  
**Water**  
**2012 Schedule of Rates and Charges (cont'd)**

	<u>2011 Approved Rates</u>	<u>2012 Proposed Rates</u>
<b>Water Rate for Temporary Connection for Construction</b>		
Single family structure	\$12.02	\$12.98
Duplex structure one service line	\$12.02	\$12.98
Up to 4 units	\$15.02	\$16.22
5 to 10 units	\$22.52	\$24.32
11 to 15 units	\$30.03	\$32.43
16 to 20 units	\$37.55	\$40.55
21 to 25 units	\$45.20	\$48.82
26 to 30 units	\$52.55	\$56.75
31 to 35 units	\$60.08	\$64.89
36 to 40 units	\$67.59	\$73.00
41 to 50 units	\$75.09	\$81.10
Over 50 units	\$1.52 per unit	\$1.64 per unit
Other structures per 93 m <sup>2</sup> of floor space	\$3.06	\$3.30
	(minimum charge \$8.25)	(minimum charge \$8.25)
<b>Bulk water users</b>		
Smart Card (per card purchase cost)	\$30.00	\$32.40
Cost of Water per 1,000 L	\$2.48	\$2.68
Inspecting waterworks Installations/disconnections	\$83.11 per hour	\$89.76 per hour
<b>Builder and Developer Charges</b>		
<b>Frontage charge per meter for existing mains</b>		
Residential	\$150.69 per metre	\$162.75 per metre
Commercial, Industrial and Institutional	\$160.27 per metre	\$173.09 per metre